

# Labour Market Visibility: Data and the Job Search

## Policy Brief

October 2023



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Advances in labour market data, particularly national statistics office data coordinated by Eurostat, mean that it is now possible to return data to citizens in increasingly useful ways. This policy document is based on the experience of the HECAT project in researching, developing and piloting the [www.mylabourmarket.com](http://www.mylabourmarket.com) tool, in partnership with ESS, the Slovenian Public Employment Service, and reports on the challenges and opportunities of turning labour market data into a citizen tool.

## The Opportunities



To exploit the advances in labour market data and analytics to allow individual citizens to observe their own, personal labour market— bounded by location and occupational domain, and to see demand and supply, pay/earnings, liquidity and volatility of occupations.



To improve online job search methodologies by recentring them towards the needs of jobseekers— by incorporating search methods that link skills to occupations and the job qualities people value to opportunities.



# Expanding labour market data users

There is an opportunity to support and extend the range of labour market actors who use labour market data.

## Jobseekers

Individuals in the labour market looking for immediate or near term employment.

## Career Guidance

Individuals planning and developing careers, often considering long term investment in education (2nd, tertiary or fourth level education), vocational training or apprenticeships.

## Employment Services

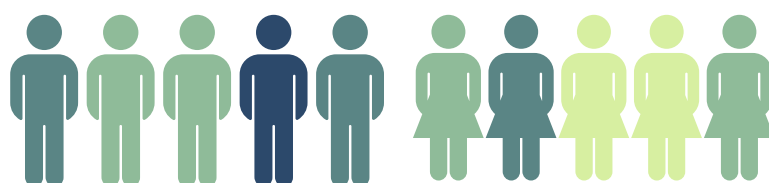
Public, NGO and for-profit employment support agencies who assist individuals and organisations in job and career search.

## Education Providers

VET, 2nd and tertiary education providers considering developing and delivering education programmes that are aligned with employment demand.

## Local and Regional Economic Development Agencies

Analysts of economic data, regional development agencies and planners, social and economic research agencies and policy analysts to assist in providing regional and national labour market data.



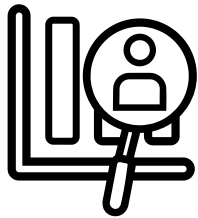
# Four big challenges

Traditionally this data has been developed for economic planners and policy makers, and so the data infrastructure has been designed to be aggregated, for the relatively short timelines of policymakers and using constructs that are useful to national planning. We encountered four challenges in returning this data to the people from whom it was collected.



## Challenge 1

To usefully disaggregate the data into **scales and frames** that are useful to citizens, regions and occupations.



## Challenge 2

To report the data using **time frames** useful to citizens:

- Jobseekers have six months to two-year timeframes
- Career Guidance has five-to-twenty-year timeframes



## Challenge 3

To develop **constructs that are useful to people** in the market, citizens looking for jobs and careers, rather than people looking at the overall market – this necessitates the development of new data constructs such as liquidity and volatility.



## Challenge 4

To **present the data** in an intuitive, engaging and simple way, that users without training can understand.



4 challenges  
addressed in

[www.MyLabourMarket.com](http://www.MyLabourMarket.com)



# Our prototyped and piloted solution

## MyLabourMarket.com Platform

Drawing on the expertise, scale and targeted ambition of EU Horizon 2020 funding, our project researched, developed, designed and piloted the [www.MyLabourMarket.com](http://www.MyLabourMarket.com) (MLM) platform. The platform, containing **3 distinct tools**, was developed based on systematic reviews of the state of the art of existing datafication approaches to the labour market, and considerable ethnographic fieldwork with the Slovenian Public Employment Service— ESS.

We were helped by engagement with frontline caseworkers, unemployed people, career guidance and ALMP mentors, international scholars, national statistics offices, private and NGO labour market actors, practitioners, policymakers and intergovernmental organisations, as well as multiple other stakeholders in developing a tool to increasing labour market data visibility via the development of data-driven labour market platforms.



We undertook two development and piloting iterations to refine and improve our groundbreaking tool. Piloting and showcasing the tool has provided us with a strong endorsement of the concept of using publicly available labour market data to support job and career guidance in Public Employment Services.

## 3 Key Tools



Pay Visibility



**Explore your labour market**

Do you want to learn the latest data about your professional occupation?

Time Unemployed Estimates



**Career opportunities**

Are you looking for a change?

Job Quality

# Showcasing the MyLabourMarket Tools

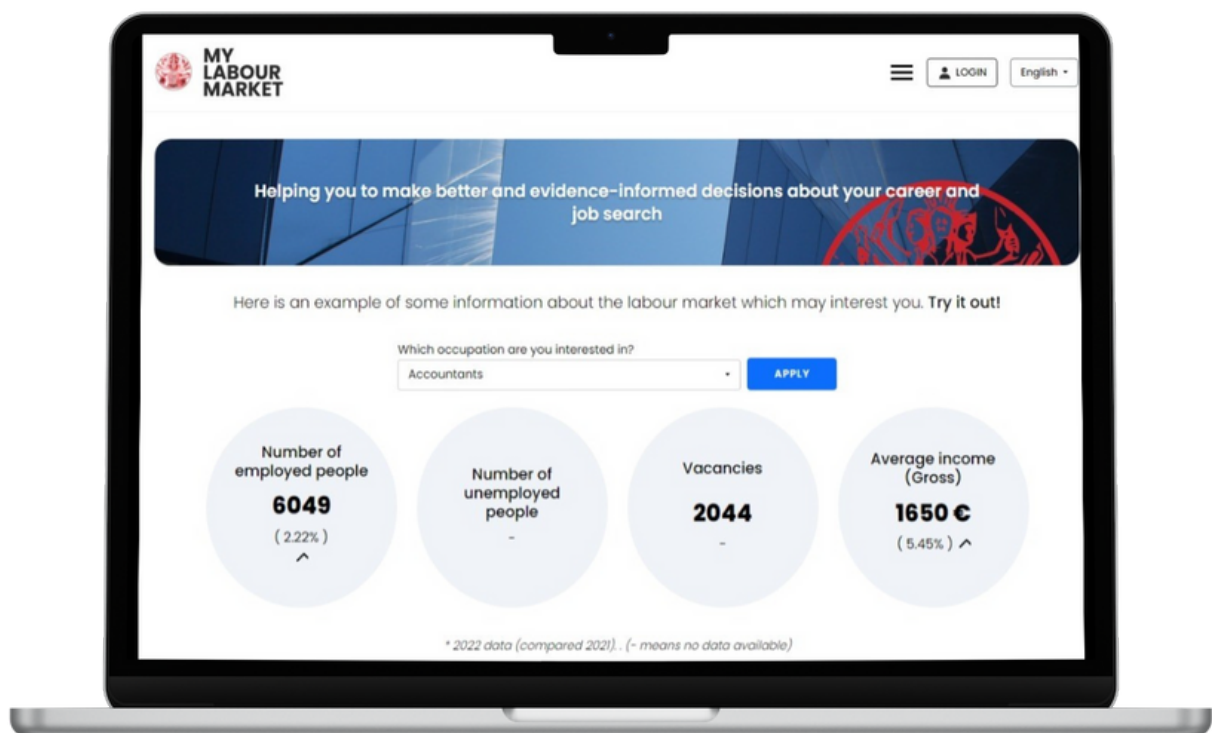


## Pay Visibility

Despite growing country and sector specific transparent pay regulations, including those seen in the US, Germany, Austria and Spain and, indeed, and the in-coming EU Pay Transparency Directive – **job search process are often frustrated by job listings which withhold critical pay/earnings information.** This presents ethical inconveniences, related to the gatekeeping of data necessary to receive a rounded view of the labour market and individual job considerations. Indeed, labour market outcomes are often negatively affected by the retaining of such knowledge within job seeking practices (Smith et al., 2019).

**Earnings transparency is something increasingly expected by job seekers.** Within Public Employment Services (PES), our HECAT fieldwork with both jobseekers and their caseworkers revealed that earnings information is often the first data-point sought after by the active jobseekers. Pay is an increasingly important job quality element for most and is often a leading factor in the decision to pursue a particular role or indeed, career (Cullen, 2023).

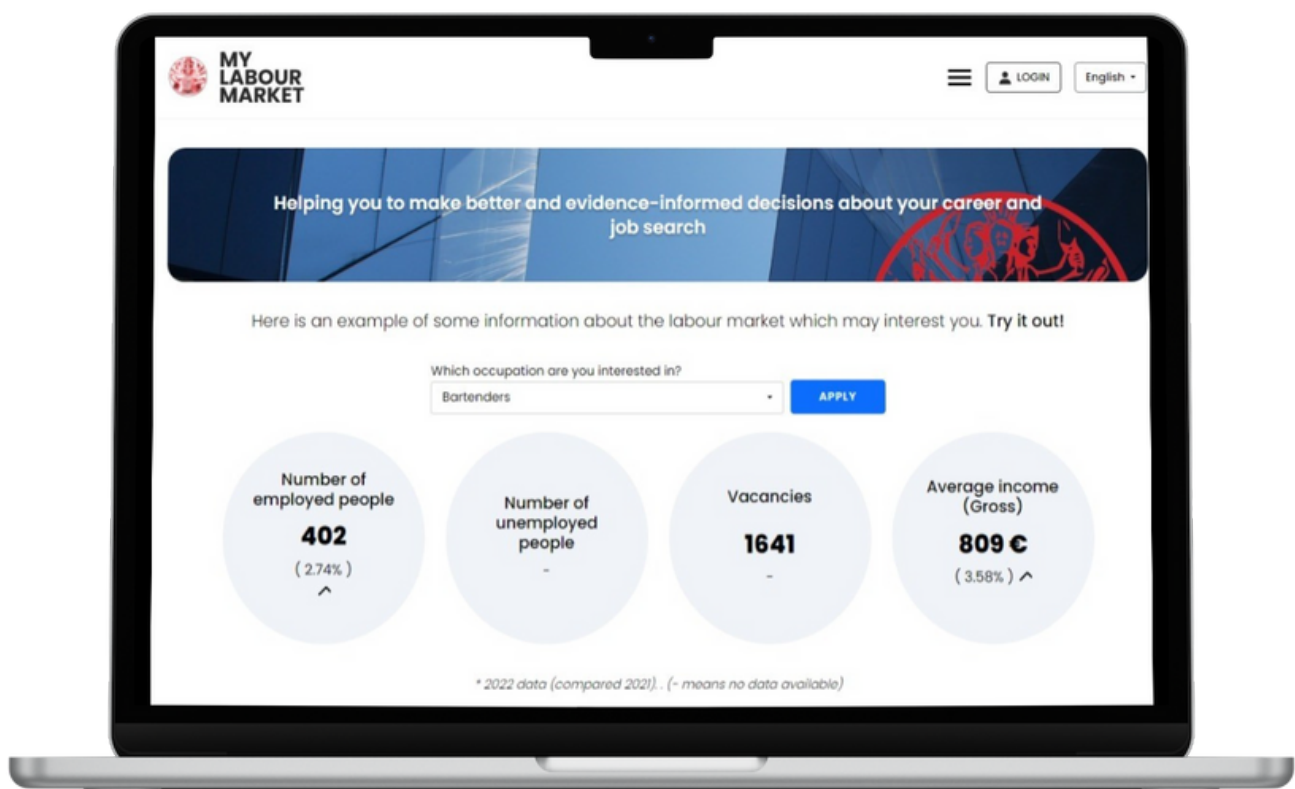
**Earnings comparison** is often used as a means of prequalifying a job or career as being suitable, before other job quality factors come under consideration This is an especially important factor to those who have to make the trade-off between social welfare income-support and potentially rewarding and sustainable employment. The act of earnings comparison is often based on a person's own view of themselves and has largely been recognised to highly guide job choices (Perez-Trugila, 2020). Such factors are especially contentious across PES users, who may already be victim to lower confidence and self-esteem based on their own experiences of unemployment (Mueller, Spinnewijn, and Topa 2021). As such, **withholding earnings-related data can significantly mar the employment-facilitation process.**



# Showcasing the MyLabourMarket Tools

## Pay Visibility

Aligning with the idea that knowledge is power, **information on earnings, when paired with additional data points regarding the labour market, allow jobseekers access to a rounded view of the available market.** This promotes autonomy within job search activity, allowing individuals to advocate for their own needs and requirement within the job search process via informed decision making. This further allows jobseekers to anchor themselves within the labour market, comparing their pay with that of the market average, identifying any visible pay discrepancies and facilitating pay negotiations in their own interest (Cullen, 2023). As a factor effecting the viability of day-to-day life, pay/earnings transparency needs to be a key factor when increasing labour market data visibility. As such, in developing labour market tools, care should be taken to ensure earnings data is a defining feature.



## Pay Visibility Recommendations

- Labour market pay/earnings comparison should be facilitated where possible.
- Access to latest earnings trends by industry and job title should be a strong consideration.
- Any shared job listings via such tools should come with the relevant pay information.

# Showcasing the MyLabourMarket Tools

## Time Unemployed Estimates

Data that **predicts the likely duration of unemployment** is commonly used administratively within public employment services to stream people toward activation services, but this insight is usually not shared directly with the unemployed person.

Our project **reviewed statistical-based modelling** used to determine the potential period of time a given jobseeker will be unemployed by over a third of OECD countries. For example, in Ireland the PEX, or the probability of exit model is used to identify those at risk of long-term unemployment (6 months or longer) against those likely to be frictionally unemployed, and ration activation resources to those with greater need



Our research **identified a number of ethical and operational issues** where such modelling and indeed, profiling tools are used within PES. These include the **communication** of the use of such tools, the potential for **biases** and indeed, the very programming and **accuracy** of such models. However, one of the leading issues where labour market visibility is concerned is the debate regarding the open sharing of knowledge adjunct from such modelling.

In the course of our research we found that professionals working across the labour market worried that this information might be disheartening for unemployed people.

In our piloting we shared this personalised data with over 40 people.

**Each found it insightful, encouraging and, to a greater or lesser extent allowed them to make sense of their time unemployed— if anything, across this small sample it reduced anxiety.**



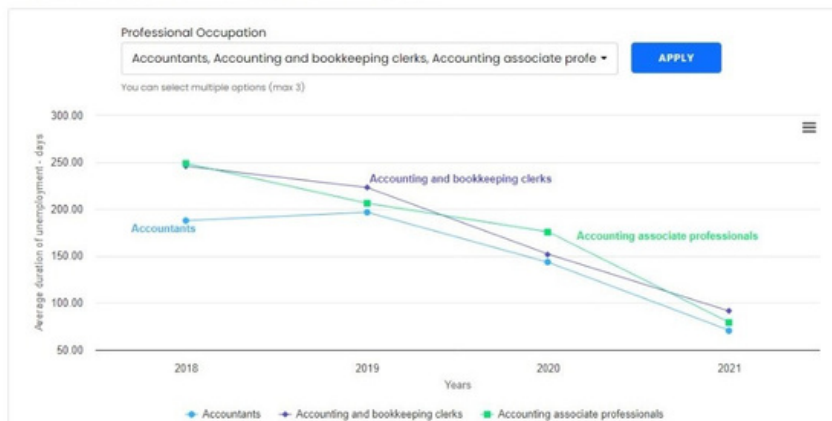
# Showcasing the MyLabourMarket Tools

## Time Unemployed Estimates

We developed two statistical approaches to estimating time unemployed – one using unsupervised AI and the other using a best of breed statistical model. One offers a comparison tool between occupations and duration unemployed, the other offers more customised insights based on 12 variables. Showing two approaches demonstrates the fuzzy insight offered by probability tools – based on the maxim that all models are wrong, some are useful.

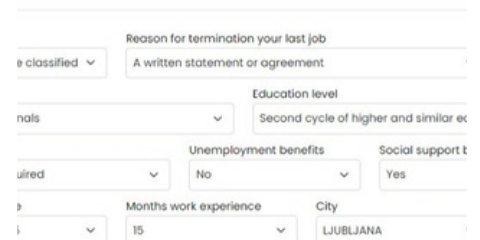
### Compare duration of Unemployment

Compare the average time unemployed by up to 3 occupations.



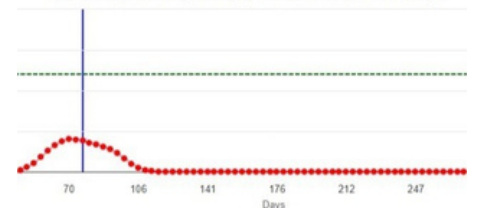
### Average time unemployed

Age time people remain unemployed customised by occupation and location (PES).



### Average time unemployed

Based on data and historical trends from the last 12 months the mean time to employment is 76 days. With a 90% probability of employment between 63 and 76 days.



The aim of HECAT's MyLabourMarket platform is to go beyond profiling, embedding important data points on the labour market into a visual presentation of important knowledge points. In practice, this means that the tool also offers this data graphically, so showing the range of time, rather than a simple high/low divide typically used within PES administration. This allows unemployed people to think of the time unemployed as a process.

Further, as statistical profiling becomes more of a common feature in PES, the ramifications of such data visibility need to be carefully considered. While HECAT advocate for visibility where labour market data is concerned, it is important that such data is approached and presented in a manner that is both open and accessible and most importantly, understandable by the end user.

In these ways, MLM attempts to implement a more ethical approach, aligned to European values of data regulations, including GDPR, autonomy and individual's own needs, wants and situation.

# Showcasing the MyLabourMarket Tools

## Time Unemployed Estimates

Research observes that many jobseekers who find themselves within a period of unemployment **often overestimate the duration** (Mueller, Spinnewijn, and Topa 2021). Depending on a range of factors, including current employment levels, skills shortages in a given period, job suitability and even location, **finding a suitable role is not always as easy as initially considered**. Indeed, where overestimation of the job seeking period is not anticipated, issues of lower self-esteem, demotivation and additionally negative personal effects can affect an individual's resilience (Perez-Truglia, 2020). Longer term unemployment periods can additionally be detrimental to a person's physical health (Stauder, 2019), can cause larger loss of skills (Edin and Gustavsson, 2008) and can have particular effects on longer-terms loss of productivity and subsequent potential earnings (Gregory and Jukes, 2001).

Longer-term unemployment spells have additional societal and individual impacts in that such experiences across these periods can have significant effect on the ability to reintegrate into the labour market. Those most at risk of LTU are more likely to overestimate their own potential to find a role with their period of unemployment, causing particular detrimental effect to their own psyche (Mieller, Spinnewijn and Topa, 2021; Spinnewijn, 2015). In such instances, it is important that PES caseworkers have contingencies in place to deal with such overestimations, including measures to reassess the return to the working world. In this sense, modelling such as PEX can have positive effects, although again, this is based on the intervention of PES caseworkers and the individual's own abilities to navigate such insights.

In overcoming this, **the policy brief recommends that where such data is visible, additional supports are presented to jobseekers in preparing for their period of unemployment**. This aligns with contingencies recommended in an array of works on LTU, which recommend that early intervention to support job search should be a key feature of PES efforts (Leschke and Brebion, 2020, HECAT D2.1). While never an exact science, where models like PEX are used, contingencies should be put in place to ensure such data becomes a guidance point and not a thing of disillusionment. This may include for instance, additional data points becoming visible regarding training or services available to jobseekers which suit their given scenarios. Care within employment services should also be a considerable factor. Such care needs to extend to preparing the jobseeker for the period of potential vulnerability they are embarking on where unemployment is concerned.

## Time Unemployed Estimates Recommendations

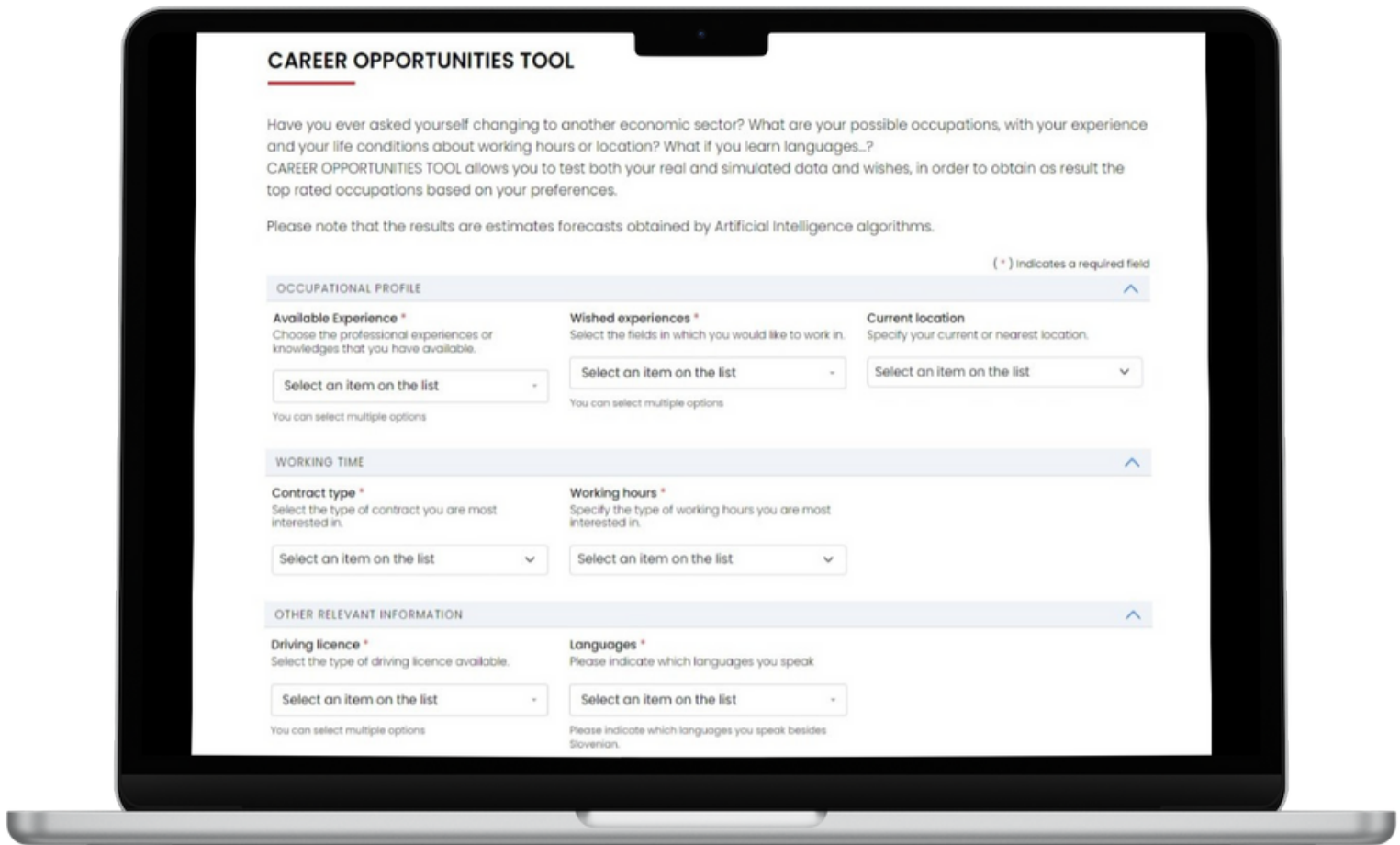
- Contextual explanations that are both accessible and in plain English.
- Presentation of complex data that is both user-friendly, intuitive and promotes understanding.
- Where available, additional caseworker support to support understanding of complex and sensitive labour market data, particularly for individuals close to the labour market but with lower digital literacy skills or abilities.

# Showcasing the MyLabourMarket Tools

## Job Quality

Current job search methodologies rely on thin search terms, usually job title, occupation, location and earnings. We know, **job sustainment and satisfaction comes from a richer set of conditions of employment**, and the HECAT research aspired to bring these conditions of job quality into job search.

One of the most prominent issues with the use of algorithmic systems within labour market tools is the **tendency to focus on exit towards employment rather than quality integration into the labour market** (Leschke and Brebion, 2022, HECAT D2.1) – job first strategies, rather than sustainable and rewarding employment. Such an approach often fails to take account of the specific responsibilities, wants and needs of individual jobseekers, turning the measure of success (find work) into a singular target. Such efforts can mean individual job seekers accept work that is unsuitable and unsustainable, which they cannot retain, and so we can cycle through bouts of work and unemployment (Vanskeenkiste et al., 2016).



**CAREER OPPORTUNITIES TOOL**

Have you ever asked yourself changing to another economic sector? What are your possible occupations, with your experience and your life conditions about working hours or location? What if you learn languages...?  
CAREER OPPORTUNITIES TOOL allows you to test both your real and simulated data and wishes, in order to obtain as result the top rated occupations based on your preferences.

Please note that the results are estimates forecasts obtained by Artificial Intelligence algorithms.

(\*) indicates a required field

**OCCUPATIONAL PROFILE**

<b>Available Experience *</b> Choose the professional experiences or knowledges that you have available.	<b>Wished experiences *</b> Select the fields in which you would like to work in.	<b>Current location</b> Specify your current or nearest location.
Select an item on the list	Select an item on the list	Select an item on the list
<small>You can select multiple options</small>	<small>You can select multiple options</small>	

**WORKING TIME**

<b>Contract type *</b> Select the type of contract you are most interested in.	<b>Working hours *</b> Specify the type of working hours you are most interested in.
Select an item on the list	Select an item on the list

**OTHER RELEVANT INFORMATION**

<b>Driving licence *</b> Select the type of driving licence available.	<b>Languages *</b> Please indicate which languages you speak
Select an item on the list	Select an item on the list
<small>You can select multiple options</small>	<small>Please indicate which languages you speak besides Slovenian.</small>

# Showcasing the MyLabourMarket Tools



## Job Quality

In offering a wider-scale solution through visualisation of the labour market, elements of job quality are a consideration where a labour market tool is presented. Here, such a function can allow jobseekers to **navigate the labour market based on their own individual circumstances**. Within this, the HECAT platform MyLabourMarket advocates for both the visibility of probability of exit scores and further the opportunity to explore the labour market based on complex situations and the many needs and wants of the individualised jobseeker. We also see significant potential for future tools and systems if public job quality data is offered in more detailed, granular form (by regional/municipal location and occupation), if job quality data collection and presentation becomes more closely related to the experience of work and if searching occupation codes is made more intuitive.

### Job Quality Recommendations

Based on the work of a range of scholars exploring the overlap in job quality elements that are of most worth to jobseekers, the HECAT project advocate for the following dimensions to be considered with such labour market tools, based on Warhurst et al. (2017, p.21):

- Pay and other rewards
- Intrinsic characteristics of work
- Terms of Employment
- Health and Safety
- Work Life Balance
- Representation and voice



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# About HECAT



HECAT is a research consortium carefully brought together to achieve the mammoth task of developing an ethical algorithmic based platform to assist Public Employment Services (PES) and Unemployed people in making informed, transparent and integrated decisions. The research aimed to use sociological and anthropological insight into unemployment and the labour market, to guide technical developers of the back-end algorithms and front-end user interface with the objective of creating an ethical and equal platform. Consortium partners were drawn from AHSS and STEM disciplines, academics, NGOs and PES. **The MyLabourMarket platform is the product of the multi-disciplinary HECAT project team study.** This project has been developed in co-operation with the Employment Service of Slovenia where this platform was been piloted. In this vein, the current iteration is built with both European (e.g. European Working Conditions Survey) and Slovenian data, with capabilities to expand further.

[CORDIS](#)

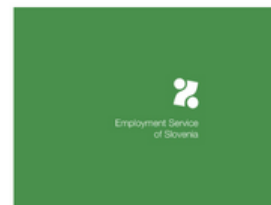
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SciencesPo



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